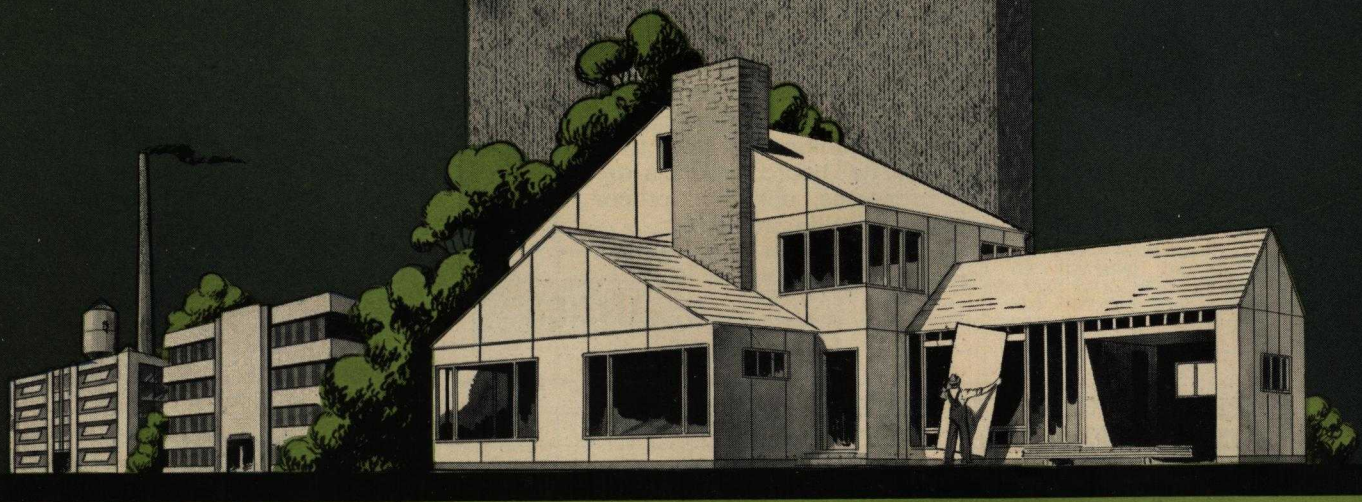
✓Double ✓Duty

INSULITE



INSULATES AS IT BUILDS . . . BUILDS AS IT INSULATES

INSULITE

DIVISION OF
MINNESOTA AND ONTARIO PAPER COMPANY
GENERAL OFFICES: 500 Baker Arcade Building, Minneapolis 2, Minnesota

SALES SOLICITORS OFFICES:

NEW YORK 7, N. Y., 258-59 Broadway
CHICAGO 6, ILL., 205 W. Wacker Drive

MILL: International Falls, Minnesota

COMPANY—EXPERIENCE—FACILITIES

EXPERIENCE

Insulite, the original structural wood fiber insulating board, has been made and marketed for more than a quarter of a century. Experience gained through constant observation of actual installations of Insulite Products during this period, coupled with exhaustive laboratory research work, assures dependable and comprehensive information on the practical applications of Insulite in its various forms. This background of many years of practical experience offers the ultimate consumer of Insulite Products an unsurpassed service and protection.

MANUFACTURING FACILITIES

A thoroughly modern plant, complete in every detail, assures an ample supply of material at all times. Special machine operations fabricate, economically and accurately, all types and sizes of insulation board units for the building and industrial fields.

DISTRIBUTION

Insulite Products are distributed nationally through retail lumber dealers. To facilitate shipping and handling without injury, these materials are securely packaged in strong, easily handled bundles for safe delivery to the job.

SERVICE

INSULITE maintains a Service Department personneled with experienced Insulation Engineers. The Company tenders its full cooperation and service facilities to architects in the solution of insulation problems.

INSULITE MANUFACTURING PROCESS

The manufacture of Insulite Structural Insulation Products begins in the vast northern woods. Carefully selected wood is transported to the Insulite Mill where it is cut into shorter lengths and the bark removed. The logs are then reduced to fibers by one of two processes—a strictly cold grinding process or a chipping and digesting process. Fibers from the first process are used exclusively in making the stock from which the light colored (Ins-Lite) board products are made. Stock from both processes, mixed in proper proportions, is used to make Graylite products.

The fibers in all cases are thoroughly treated to insure the greatest possible degree of moisture resistance and are formed into large sheets by a felting process which was especially developed to provide uniform quality and strength throughout the finished material.

During the felting process the fibers are interlaced in such a manner as to produce a myriad of minute air cells affording the maximum amount of resistance to heat passage.

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PHYSICAL CHARACTERISTICS

BASIC MATERIALS—Four distinct types of Insulite wood fiber products are manufactured and are available in many forms for structural insulation, acoustical, and decorative purposes.

1. "INS-LITE"—a standard density material, light cream in color with one surface having a "Burlap Texture" (simulating a loosely woven fabric) and the other a "Linen Texture" (smooth and simulating a closely woven fabric). SMOOTHCOTE and SATINCOTE—basically Ins-Lite—have one surface factory finished.

2. "GRAYLITE"—an integrally treated asphalt containing board, gray-brown in color, burlap and linen textured surfaces.

3. "ACOUSTILITE" and "FIBERLITE"—a very low density wood fiber board with an exceptionally high percent of sound absorption.

4. "HARDBOARDS"—a specially fabricated wood fiber board of various high densities, hardnesses and colors for structural and decorative purposes.

TESTS—All Insulite Structural Insulating Materials are designed to conform with "Federal Specifications LLL-F-321b for Fiber-Board; Insulating and amendment No. 1."

PROPERTY	INS-LITE	GRAYLITE	SMOOTHCOTE	SATINCOTE	FIBERLITE	ACOUSTILITE
THERMAL CONDUCTIVITY HEAT TRANSMITTED IN BTU PER HOUR PER SQUARE FOOT PER INCH PER DEGREE FAHR. AVERAGE VALUES.	0.33	0.35	0.33	0.33	0.30	0.30
TENSILE STRENGTH POUNDS PER SQUARE INCH. AVERAGE VALUES.	300	350	300	300		
TRANSVERSE STRENGTH LOAD IN POUNDS REQUIRED TO BREAK SPECIMEN ½ INCH THICK AND 3 INCHES WIDE WHEN RESTING ON SUPPORTS 12 INCHES APART. AVERAGE VALUES.	20.3	22.4	20.3	20.3		
MOISTURE RESISTANCE PERCENT BY VOLUME OF WATER ABSORPTION WHEN IMMERSED IN WATER AT 70° F. FOR TWO HOURS. AVERAGE VALUES.	3.7	3.7	3.7	3.7	5.0	5.0
PLASTER BOND POUNDS PER SQUARE FOOT REQUIRED TO SEPARATE GYPSUM PLASTER FROM SPECIMEN. AVERAGE VALUES.	1527	1627				
NAIL HOLDING STRENGTH LOAD IN POUNDS REQUIRED TO PULL A 6d COMMON NAIL LATERALLY TO EDGE FROM A POSITION ¾ INCH FROM EDGE, FOR ½-INCH THICKNESS SPECIMEN.	73.4	91.4	73.4	73.4		
LIGHT REFLECTION REFLECTION FACTOR DETERMINED FROM SPECTROPHOTOMETER DATA FOR A COLOR TEMPERATURE OF 2848 K.	0.64	0.37	0.68	OYSTER WHITE: 0.72 LIGHT IVORY: 0.80	BUFF: 0.77 WHITE: 0.80	BUFF: 0.77 WHITE: 0.80

SOUND ABSORPTION Coefficients of sound absorption. Results for Fiberlite and Acoustilite determined by National Bureau of Standards and for other products by Riverbank Laboratories. * Noise reduction coefficient is average of coefficients for frequencies 256 to 2048 inclusive.	TYPE OF MOUNTING	INS-LITE	GRAYLITE	SMOOTHCOTE	SATINCOTE	FIBERLITE		ACOUSTILITE	
		ON FURRING STRIPS	ON FURRING STRIPS	ON FURRING STRIPS	ON FURRING STRIPS	On Furring Strips	On Solid Background	On Furring Strips	On Solid Background
FREQUENCY	128	0.33	0.32			0.07	0.07	0.12	0.16
	256	.39	.34			.40	.20	.49	.34
	512	.30	.25	0.16	0.18	.72	.53	.80	.79
	1024	.27	.23			.75	.77	.85	.72
	2048	.24	.30			.80	.74	.80	.69
	*N.R.	.30	.30			.65	.55	.75	.65

QUALITY—Insulite Structural Insulation Products have been recognized for their superior quality since 1914 when the first board was produced. Rigid engineering specifications for 35 years have established Insulite's reputation for reliability.

UNIFORMITY—Adequate laboratory control and mill inspection assure uniformity in the physical characteristics and appearance of the various Insulite Products. Packing methods eliminate damage under normal shipping conditions.

BUILD WITH

INSULITE THE ORIGINAL WOOD-FIBER STRUCTURAL INSULATING BOARD

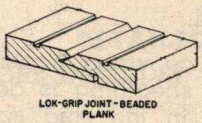
MINNESOTA AND ONTARIO MANDO FOREST PRODUCTS PAPER COMPANY

DESCRIPTION OF

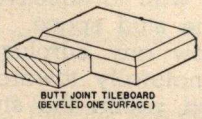
PRODUCT NAME	SIZES (AREA) (Feet, except as noted)	Thickness (Inches)	DESCRIPTION	USES
SHEATHING BILDRITE	4 x 8, 9, 10, and 12 Also 2x8 with V-joint on long edges.	25/32	A structural insulating sheathing board of special composition and increased density. Integrally treated with asphalt for increased strength and added resistance to moisture absorption. Burlap and linen textured surfaces and square cut edges. 4 ft. wide boards marked for proper nail spacing and alignment.	Highly efficient wall sheathing and roof boarding. Used with siding, brick veneer, shingles, and stucco. Permits wall to "breathe." Guards against trapping vapor in the stud space and the possibility of condensation.
LOK-JOINT LATH SEALED GRAYLITE	18" x 48"	½ 1	Fabricated from Graylite of standard composition and density, burlap textured surface. Long edges shiplapped to retard air infiltration and maintain continuity of insulation. ½-inch thickness is homogeneous and 1-inch thickness is two ½-inch thicknesses stapled together. Galvanized wire "Loks" spaced 16 inches center to center along bottom edge so as to come midway between framing supports, reinforce the unsupported horizontal joint and minimize yielding under trowel pressure. "Loks" also serve as plaster grounds assuring not less than ¼-inch thickness of plaster on first coat. With an effective vapor barrier on the stud side of the ½-inch thickness and between the two layers forming the 1-inch thickness.	Interior insulating plaster base for walls and ceilings to provide proper vapor control where low outside temperatures and high indoor relative humidities (or air conditioned space) are likely to cause condensation in wall spaces or attics.
BUILDING BOARD INS-LITE GRAYLITE	4 x 6, 7, 8, 9, 10 and 12	½ ¾ 1	Square edge Ins-Lite (or Graylite) boards of standard composition and density. ½ and ¾-inch thicknesses are homogeneous; 1-inch thickness is laminated (two ½-inch thicknesses glued). Burlap and linen textured surfaces.	Insulating structural sheathing and roof boarding, exterior finish, interior wall and ceiling finish, and sound insulating construction.
INTERIOR BOARD SMOOTHCOTE SATINCOTE	4 x 6, 7, 8, 9, 10 and 12	½	Square edged boards (Ins-Lite) of standard composition and density. **Smoothcote** is factory surfaced on one side with a smooth, light cream colored finish. **Satincote** is factory finished on one side with an oil base paint, highly resistant to abrasion and washable. Choice of two fast colors—oyster white and light ivory.	Interior wall and ceiling finish. Requires no further decorative treatment, but can be easily painted.
WALLBOARD SMOOTHCOTE GRAYLITE	4 x 6, 7, 8, 9, 10 and 12		Square edged boards of standard composition and density. Smoothcote is factory surfaced on one side with a light cream colored finish. Graylite—grayish brown in color—contains an integral asphalt treatment. Burlap and linen textured surfaces.	Interior wall and ceiling finish where the greater strength and insulating value of ½ inch and thicker boards are not required.
TILEBOARD SATINCOTE	12" x 12", 12" x 24", 16" x 16", 16" x 32"	½	Fabricated from Satincote Interior Board, beveled four edges of finished surface. Lok-Grip Joint in all sizes and Butt Joint in 12x24-inch size and smaller. **Satincote** is available in oyster white and light ivory.	Decorative and insulating interior wall and ceiling finish.
PLANK SATINCOTE	Widths: 8", 10", 12", and 16" Lengths: 8, 10, and 12	½	Fabricated from Satincote Interior Board. Lok-Grip Joint, bevel, and bead on two long edges, square cut ends. **Satincote** is available in oyster white and light ivory.	Insulating interior wall finish used either vertically or horizontally to provide a random plank effect. Can be left natural, stained, or painted.
LOK-PINS	5/16" x 1⅝"	1/32	Made from heavy galvanized steel. Diamond shaped, 1⅝-inch long and ⅛-inch wide at center.	Unify Lok-Grip Joints of Tile Boards and plank.
ACOUSTICAL ACOUSTILITE **FIBERLITE**	12" x 12", 12" x 24", 16" x 16", 16" x 32" and 24" x 24" For Acoustilite	¾ ½	Light weight, wood fiber, high efficiency sound absorptive materials. Travertine textured surface, factory spray painted in buff and in white colors. Butt joint and beveled ⅛x⅛ inch four edges of finished surface. **Acoustilite** furnished in ¾-inch thickness. **Fiberlite** in ½-inch, only.	Acoustical correction of theaters, churches, auditoriums, offices, schools, gymnasiums, hospitals, stores, libraries, bowling alleys, restaurants, and taverns. Provides high light reflection and decorative ceiling treatment.

INSULITE PRODUCTS

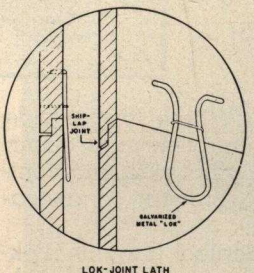
PRODUCT	SIZES (AREA) (Feet, except as noted)	Thickness (Inches)	DESCRIPTION	USES
ADHESIVE No. 480	1-Gallon and 5-Gallon Containers		An adhesive that wets properly, readily adheres to prepared surfaces, has high wet strength, does not react with or dissolve paint. Remains semi-plastic. Neutral light olive color.	For the application of acoustical tiles, fiber tile boards and planks over typical wall and ceiling surfaces of wood, plaster, concrete, clay tile, plaster board, fiber board, metal, brick, cinder block.
SIDING BRICK DESIGN STONE DESIGN SHINGLE DESIGN	14⅜" x 43¾"	⅝	Insulating Siding with Graylite base shiplapped four edges. All faces and edges asphalt impregnated. Finish face has heavy coating of asphalt and embedded mineral granules marked off with "mortar joints" to simulate brick or stone designs. Brick design available in buff, red, and pearl blends and stone design in grey blend. Shingle design available in silver or buff blend.	Exterior siding for application over existing siding or directly to wood sheathing. Provides thermal insulation and lasting exterior finish for new construction or in remodeling.
HARDBOARD DENSULITE	4 x 8, 10, 12	3/16	Medium heavy density board, square edges. Smooth one surface and screen marked on the other. Golden oak brown color.	For interior decoration, paneling, wainscoting. Left natural or painted.
HARDBOARD	4 x 2, 3, 4, 6, 7, 8, 9, 10, and 12	⅛ 3/16	Heavy density board, square edges. Smooth one surface and screen marked the other. Golden oak brown color.	Wainscoting, counter tops, outdoor signs, furniture, truck bodies.
	4 x 12	¼ 5/16		
HARDBOARD LEATHERITE	4 x 6, 8, 12	⅛	Extra heavy density board, square edges. Smooth one surface, embossed other surface with pattern resembling grained leather. Burl walnut color.	Wainscoting, deluxe wall paneling, cabinet work, window displays, screening. Can be left natural or finished.
HARDBOARD TEMPERED	4 x 1, 1½, 2, 3, 4, 6, 7, 8, 9, 10 and 12	⅛ 3/16	Extra heavy density board, square edges. Smooth surface one side, screen marked the other. Burl walnut brown color.	For service where high resistance to moisture and abrasion are factors as counter tops, truck bodies, outdoor signs, furniture, base boards.
	4 x 12	¼ 5/16		
HARDBOARD PANELTILE	4 x 8, 12	⅛	Extra heavy density board, square edges. Smooth both surfaces. Burl walnut brown color. One side scored in 4, 8, or 12-inch squares.	Wainscoting and wall finish in restaurants, kitchens, bathrooms where a tile-like appearance is desired. Can be enameled or lacquered.
ROOF INSULATION INS-LITE GRAYLITE	23" x 47"	½ 1 1½ 2	Fabricated from Ins-Lite (or Graylite) boards. ½-inch thickness homogeneous and square edge. 1-inch thickness homogeneous and square or offset edge. 1½-inch thickness solidly cemented or stapled with either square or offset edge. 2-inch thickness solidly cemented or stapled with either square or offset edge.	Insulation over wood, steel, concrete, tile roof decks under built-up roofing.



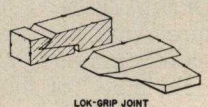
LOK-GRIP JOINT - BEADED PLANK



BUTT JOINT TILEBOARD (BEVELED ONE SURFACE)



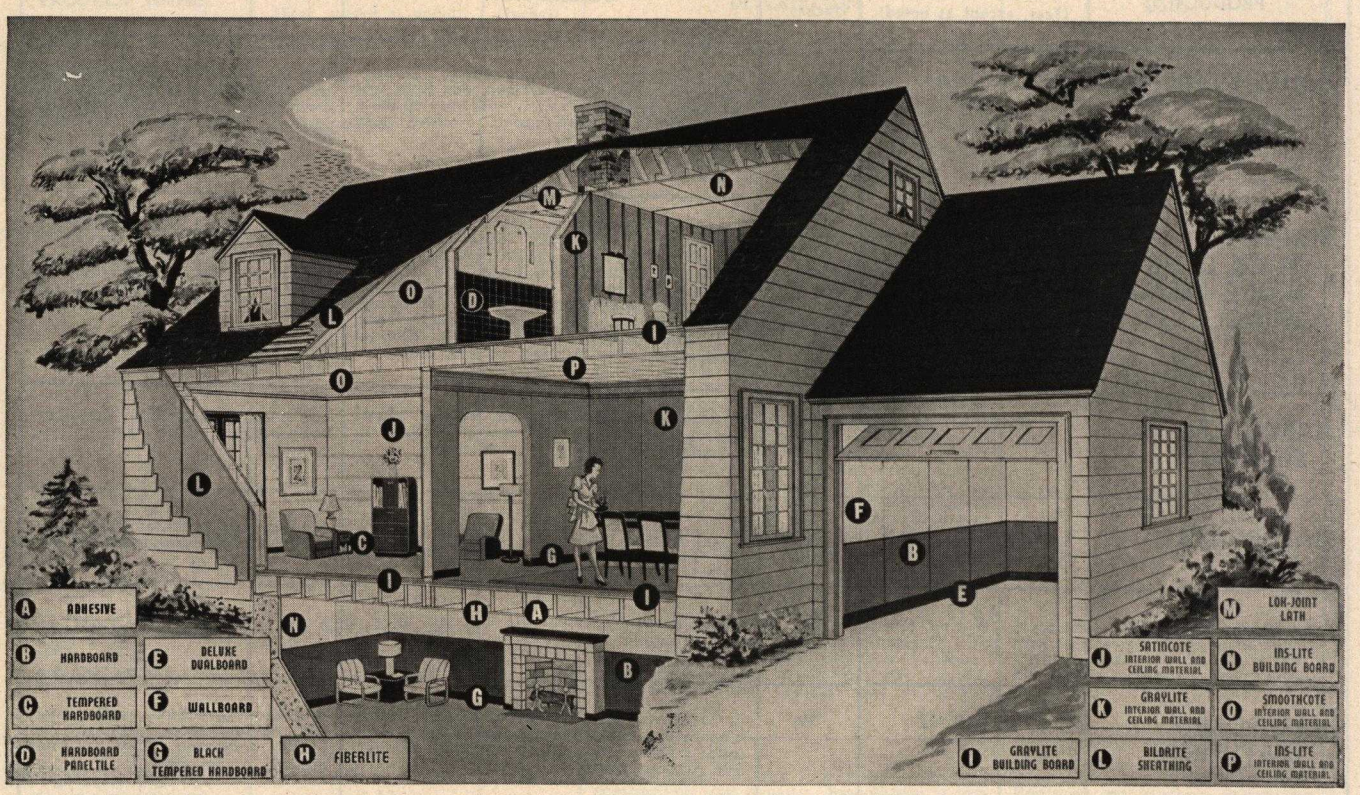
LOK-JOINT LATH



LOK-GRIP JOINT TILEBOARD

MANDO — MINNESOTA AND ONTARIO PAPER COMPANY — FOREST PRODUCTS

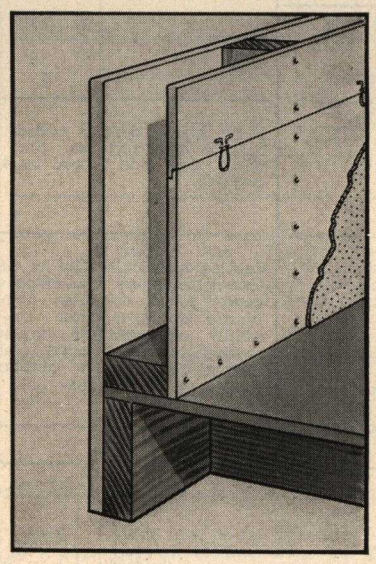
INSULITE IN RESIDENTIAL CONSTRUCTION



THE INSULITE *APPROVED* WALL OF PROTECTION

1—BILDRITE SHEATHING encloses the frame work of the Wall of Protection, providing these extra values:

- Four times the bracing strength of horizontally applied wood sheathing.
- Far greater insulation than lumber.
- Windproofed walls — no open joints or knot holes.
- Low application costs.
- Rapid application.
- An opportunity for the wall to "breathe."



2—SEALED LOK-JOINT LATH on interior of the Wall of Protection provides:

- Uniform thickness of efficient insulation.
- Unified surface for plaster due to locked edges.
- Reduction in sound passage.
- A strong bond with plaster.
- Protection against plaster cracks.
- For the elimination of dirt streaks and lath marks.
- The "Loks" which also serve as grounds for the first coat of plaster.
- A vapor barrier on the warm side of the wall.

CONDENSATION CONTROL—Where low outside temperatures and high inside humidities may occur, authorities recommend "sealing the hot side and venting the cold side" of the wall to prevent condensation.

An adequate vapor barrier, Sealed Graylite Lok-Joint Lath, should be used on the warm (room) side of the wall to effectively reduce vapor transmission into the stud space. Bildrite sheathing is designed to allow any surplus vapor in the stud space to pass naturally toward the exterior air. If vapor is trapped within the stud space and cannot escape through the sheathing, destructive condensation may occur.

STRUCTURAL DESIGN

Sound structural design requires that walls resist external forces such as the pressure exerted by high winds, and vibration. Walls should not deflect to a point where windows and doors stick or plaster cracks when subjected to such forces.

A wind velocity of 68.5 m.p.h. exerts a pressure of 15. lbs. per sq. ft. Since velocities in excess of this are rarely experienced in the U. S. such a pressure is used as a design factor. Several hundred cities include this requirement in their building codes. Good design usually limits deflection to not more than 1/360 of the span. In a wall 18 feet (two stories) high the deflection of the top plate should not exceed 0.6 in.

In the case of a typical two story home 26 x 36 ft., wind pressure at right angles to the 36 ft. side will be resisted by the bracing qualities of the 26 x 18 ft. end walls. When these walls are completely covered with Bildrite sheathing and the wind pressure is equivalent to 15. lbs. per sq. ft. the top plate of the end wall would be deflected 0.245 in.*

When approximately one-third of the Bildrite sheathed end wall is occupied by door and window openings, the top plate deflection will be 0.585 in.* However since door and window openings rarely exceed one-fifth of the wall area it is evident that deflection is kept within permissible limits, even under extreme conditions.

Walls sheathed with Bildrite resist the effects of vibration. Even after 1,000,000 cycles of severe vibration, Bildrite sheathed walls retained high bracing strength.*

**Based on U.S. Dept. of Agr.—Forest Products Laboratory tests.*

PREFACE TO INSULITE SPECIFICATIONS

SPECIFICATION FORM

The form of these specifications is that of a "Master" which includes all clauses which in ordinary practice apply to average work. All clauses, obviously, do not apply to every building. In formulating the specifications for a particular building, only those clauses which apply should be selected for inclusion. Special provisions or methods but seldom required are not included—such clauses should be added wherever necessary to clearly define the procedure and especially to obviate controversy involving responsibility and cost.

SHORT FORM SPECIFICATION

At the beginning of each master specification is given a short form which, for convenience, may be used in place of the more detailed specifications. While brief and space saving, this short form will still definitely identify the proper Insulite product and its use.

NOTES

Notes in italics are explanatory or advisory only and should not be included in the specification.

SELECTIVE WORDS

Wherever words or phrases occur in the body of the specification paragraph printed in italics and enclosed in parentheses, choose that word or phrase which applies to the particular work, omitting those that are irrelevant. Wherever the word "Specify" occurs in italics enclosed in parentheses, thus (*specify*), add the particular word or clause applicable.

INSULITE BILDRITE SHEATHING

SECTION 1 . . . . . MASTER SPECIFICATIONS

SHORT FORM SPECIFICATION

Note: *List and locate the wall areas to be covered.*

Sheathing shall be Bildrite Sheathing as manufactured by INSULITE, Minneapolis, Minnesota. Boards shall be $\frac{25}{32}$ in. thick *(4 ft. wide x 8 to 12 ft. long as best adapted to framing conditions for application parallel to framing members) (2 x 8 ft. V-joint, for application at right angles to framing members).* Application of sheathing, nails, framing shall be in accordance with INSULITE'S current published specifications.

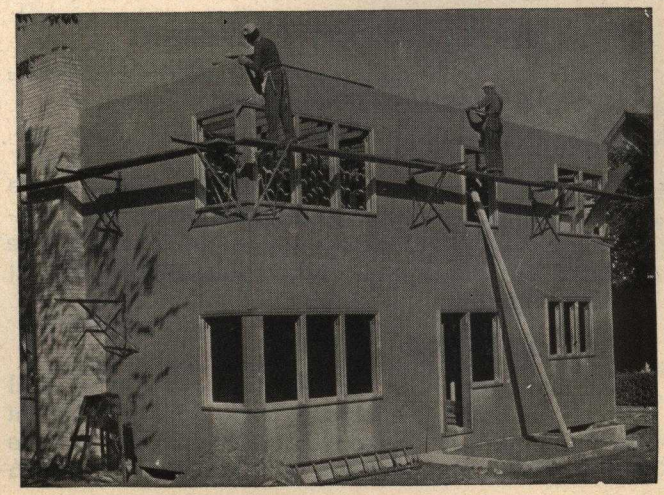
DETAILED SPECIFICATION

(1) WORK INCLUDED

Note: *Here list and locate definitely the wall areas to be covered.*

(2) MATERIAL

Sheathing shall be Insulite Bildrite Sheathing as made by INSULITE, Minneapolis, Minn. Boards shall be $\frac{25}{32}$ in. thick, *(4 ft. wide x 8, 9, 10 and 12 ft. long as best adapted to framing conditions) (2 x 8 ft. with V-joint on long edges).*



MANDO

(3) APPLICATION

(3a) General—Insulation continuity shall be maintained. Apply sheathing with linen textured surface next to framing members. Provide wood nailing base at all necessary points to accommodate service outlets, brackets, shutters.

(3a1) Apply sheathing with the length parallel with framing members. Boards shall be of sufficient length to span completely between sills and plates or other structural nailing members. Provide headers cut between framing members at all intermediate end joints, particularly at second floor line in balloon construction to form fire stop and nailing base for sheathing. All long edges shall center over framing members.

(3a2) Apply sheathing perpendicular to framing members with the open V-edge on the bottom of the sheet. Apply sheets with end joints staggered and centered over framing members.

Note: *Use (3a1) for 4 ft. width sheathing and (3a2) for 2 x 8 ft. sheathing.*

(3b) Spacing—Space boards ⅛ in. apart at all vertical edges. At window and door frames bring sheathing in close contact with frame members.

(3c) Nails—Use 1¾ in. galvanized roofing or 8d common nails.

(3d) Nailing—

(3d1) First nail sheathing to intermediate framing members and then nail the edges. At all edges space nails 3 in. apart on centers and not less than ⅜ in. from the edges. On intermediate framing members, space nails 6 in. O.C. Drive nails until the heads are flush with the surface.

(3d2) First nail sheathing to intermediate framing members and then at the ends. Space nails approximately 4½ in. center to center along each framing member and along sills and plates. Nails to be placed not closer than ⅜ in. from any edge.

Note: *Use (3d1) for 4 ft. width and (3d2) for 2 x 8 ft. sheathing. Proper spacing and alignment of nails is marked on each board of 4 ft. width Bildrite Sheathing.*

SUPPLEMENTARY PROVISIONS

Note: *Provide for the following in other specification divisions when and where they apply. Bildrite is not a nailing base.*

(1A) CONSTRUCTION

Framing shall be 16 in. on centers. Follow the standard recommendations of the Building Code Committee of the U. S. Department of Commerce and the National Lumber Manufacturing Association for all wood framing.

(2A) WOOD SIDING

All joints shall butt over the center of a stud. Nail through sheathing to each stud using nails of sufficient length to pass through the sheathing and penetrate the stud at least 1 in. For siding with butt thickness of ½ in. or less, use 8d nails. For all siding with butt thickness over ½ in., use 10d nails.

Note: *Building paper under siding is not necessary when Insulite Bildrite Sheathing is used.*

(3A) WATERPROOF FELT

Note: *Include under slate and tile roofing. Felt not necessary under wood siding, under masonry veneer, or vertical surfaces under furring, or on pitched roofs under furring and wood shingles.*

Over the sheathing, under the furring strips, apply a continuous course of *(specify brand and weight)* waterproof felt.

(4A) FURRING STRIPS FOR SHINGLES

(4A1) Provide 1 x 2 in. wood furring strips laid at right angles to framing members, over the sheathing *(and waterproof felt)*, properly spaced to take shingles, slate, tile, and similar rigid wall and roof covering. Nails shall be of sufficient length to pass through the sheathing and penetrate the framing members at least 1 in.

Note: *Building paper is not necessary on vertical surfaces under furring strips when Insulite Bildrite Sheathing is used.*

(4A2) Provide a 1 in. thick solid wood base over Bildrite under all metal work, such as gutter aprons, valleys, hips, ridges, saddles, etc. to which to attach the metal in accordance with standard practice. Provide 2 x 4 in. headers spaced 16 in. O.C. cut in between rafters to form firm nailing for ends of boards laid parallel with the rafters.

(5A) FLASHINGS

Flash over the head casings of all windows and doors with metal.

(6A) EXTERIOR STUCCO

(6A1) Waterproof Building Paper—Cover all Bildrite Sheathing beneath exterior stucco with a continuous layer of waterproof building paper. (*Specify type.*)

(6A2) Self-Furring Stucco Base—Self-furring stucco bases, various forms of self-furring wire and expanded metal lath, shall be applied directly over Bildrite *(and building paper)*, nailing or stapling through the sheathing into the studs with standard penetration into the wood.

(6A3) Non-Furring Stucco Bases—Provide 1 x 2 in. wood furring strips nailed vertically to each stud over Bildrite (*and building paper*) to form furring for metal lath stucco base. Nails shall be of sufficient length to pass through the sheathing and penetrate the framing members at least 1 inch.

(7A) MASONRY VENEER

Masonry veneer shall be laid in the usual manner allowing not less than ½ in. space between the face of the Bildrite and the back of the veneer.

Metal ties for masonry veneer shall be nailed through Bildrite into the studs. Nails shall be of sufficient length to pass through the sheathing and penetrate the studs at least 1 inch.

Note: *Building paper is not necessary under masonry veneer when Insulite Bildrite Sheathing is used.*

INSULITE LOK-JOINT LATH

SECTION 2 . . . . . MASTER SPECIFICATIONS

SHORT FORM SPECIFICATION

Note: *List and locate wall and ceiling areas to be covered. If more than one type or thickness is used, list separately.*

Plaster base shall be Sealed Graylite Lok-Joint Lath as made by INSULITE, Minneapolis, Minnesota. Sheets shall be *(½ in.) (1 in.)* thick 18 in. x 48 in., delivered to the building site in the original packages.

Application of plaster base, nails, angle reinforcement, and plastering shall be in accordance with INSULITE'S current published specifications.

DETAILED SPECIFICATIONS

(1) WORK INCLUDED

Note: *Here list and locate definitely the wall and ceiling areas to be covered. If more than one thickness is used, list separately and the respective locations or areas covered.*

(2) MATERIAL

Plaster base shall be Sealed Graylite Lok-Joint Lath as made by INSULITE, Minneapolis, Minn. Lath units shall be *(½ in.) (1 in.)* thick *(as above designated)*, 18 in. wide x 48 in. long, delivered to the building site in the original packages.

Note: *Sealed Graylite Lok-Joint Lath to be applied where low outside temperatures and high inside humidity conditions warrant its use.*

(3) APPLICATION

(3a) General—Do not moisten lath units before application. Start at ceiling and work down. Apply lath at right angles to the framing (*or furring*) members with galvanized wire "loks" out and at the bottom of the unit. End joints shall center over framing members. Stagger end joints in successive courses.

Where cutting is necessary, the lath shall be scored with the point of the lather's hatchet and broken along the scored line. Cut units so that "loks" will occur midway between supports. Where piecing out is necessary, use only strips of Lok-Joint Lath. Accurately cut and fit lath around all electric outlet boxes, piping, etc.

Next to the last course of lath on both walls and ceilings shall not be nailed securely until the last course is locked in place.

(3b) Spacing—Space ends of boards $\frac{3}{16}$ in. apart. Bring locked shiplapped edges together in moderate contact.

(3c) Nails—

(3c1) Use No. 13 gauge, 1¼ in. long, blued plasterboard nails with $\frac{5}{16}$ in. heads or 4d box nails for ½ in. thick Lok-Joint Lath.

(3c2) Use No. 13 gauge, 1¾ in. long, blued plasterboard nails with $\frac{5}{16}$ in. heads or 6d box nails for 1 in. thick Lok-Joint Lath.

(3d) Nailing—First nail units to intermediate supports, then at ends. Space nails approximately 4 in. apart and not closer than ⅜ in. to edges.

(3e) Angle Reinforcement—All corners shall be reinforced with standard metal corner beads. All re-entrant angles shall be reinforced with standard expanded metal angle lath strips. Reinforcement shall be securely stapled over Insulite Lath.

SUPPLEMENTARY PROVISIONS

Note: *Provide for the following in other specification divisions when and where they apply.*

(1A) CONSTRUCTION

Framing shall be 12 or 16 in. on centers. Follow the standard recommendations of the Building Code Committee of the U. S. Department of Commerce and the National Lumber Manufacturers Association for all wood framing.

(2A) FURRING

Fur all exterior masonry walls to receive Insulite Lath with *(1 x 2 in.) (specify)* furring strips set 12 or 16 in. O. C. accurately shimmed to a true, level plane. Secure substantially to masonry.

(3A) GROUNDS

Furnish and erect, substantially secured to framing members through the Insulite Lath, full ½ in. wood grounds for all interior wood trim.

Where 1 in. thick Insulite Lath units are used, add the necessary trim grounds on all door and window frames to compensate for this thickness plus a full ½ inch of plaster.

(4A) PLASTERING

(4A1) Caution—Do not wet Insulite Lath before applying plaster.

(4A2) Inspection—Inspect nailing and notify lather of any portions of Insulite Lath not adequately secured

in accordance with paragraph 3 on previous page. See that all corners and angles are reinforced with metal corner beads accurately set to line with grounds and that all re-entrant angles are reinforced with expanded metal angle strips.

(4A3) Plaster—Use standard gypsum cement plaster or gypsum wood fiber plaster for scratch and brown coats mixed accurately in accordance with the manufacturer's specifications. Both scratch and brown coat shall be mixed to a wet consistency to allow for application with light trowel pressure and to facilitate darbying. Use any standard plaster finish over the brown coat, such as gypsum, lime, or lime gauged with gypsum mixed in accordance with the manufacturer's specifications.

Note: *Lime plaster or lime gauged with gypsum should not be used for scratch and brown coats. Use a quick setting plaster, especially for first coat (two to three hours time of set).*

(4A4) Application—Apply in three (3) coats to full ½ in. grounds in accordance with the plaster manufacturer's specification. Surfaces shall be rodded to a true plane. All corners and angles shall be plumb and true. Wherever necessary, and particularly on ceilings, provide plaster screeds to insure an even, uniform full ½ in. plaster thickness.

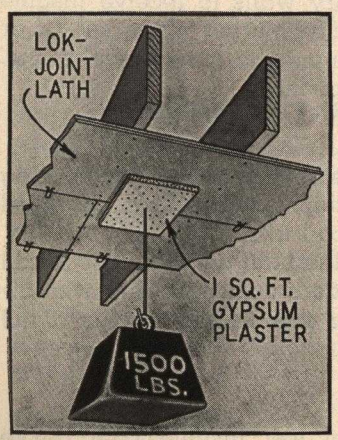
Note: *The maintenance of a uniform full ½ in. thickness of plaster cannot be too strongly stressed. Most plaster defects where a fibrous or board plaster base is used may be attributed to a weak, thin plaster coat, inadequate to withstand the normal building strains of shrinkage, settlement, and vibration.*

In applying the scratch coat of plaster, this shall be carefully pressed into all joints.

If the brown coat becomes stiff and sets during darbying, wet down the surface to allow for darbying without undue pressure against the plaster surface.

Darby strokes shall be in the direction of framing members, the darby spanning two studs or joists.

(4A5) Ventilation—Provide adequate ventilation for the proper drying of the plaster.



To break the bond of plaster to Lok-Joint Lath required a force of more than 1,500 lbs. per sq. ft.—a force that walls and ceilings will never be called upon to resist outside testing laboratories.

Note: *Due to moistureproof characteristics of Insulite Lath, all plaster moisture must be carried off by the air in contact with the exposed plaster surface.*

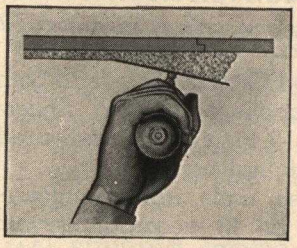
(4A6) Heat—Provide adequate heat to prevent injury by frost.

(5A) ELECTRIC OUTLETS

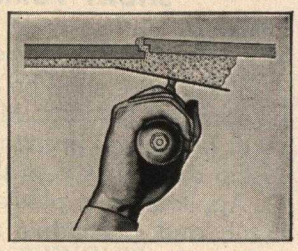
Where 1 in. thick Insulite Lath units are used, set electric outlet boxes to accommodate a full 1½ in. thickness from face of stud or joist to face of plaster.

EFFECT OF TROWEL PRESSURE AT THE JOINT

Shiplap Joint (Without Reinforcements)

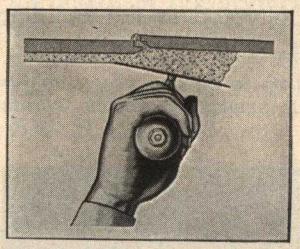


As the trowel approaches the shiplap joint of ordinary lath, the sheet being worked over is supported at the joint by the underlapping lip of the adjacent sheet.

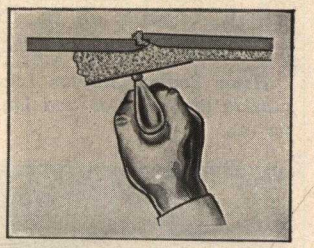


Passing beyond the joint, the trowel pressure is transferred to the unsupported sheet, causing the joint to spring open and permitting plaster to work into it.

V-Type Joint

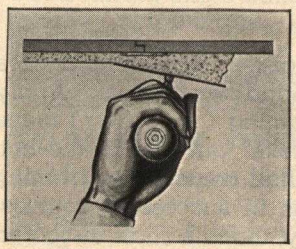


The V-type joint, combining bevel and shiplap, has the same structural defect. The "snap-back" of lath loosens plaster as trowel passes over the joint.

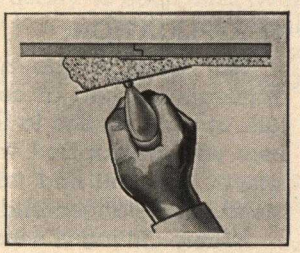


In working the plaster back over the V-type joint, the unsupported sheet "gives" under trowel pressure, and plaster is forced into the open joint.

Insulite Lok-Joint Lath



Lok-Joint Lath is securely supported at the joint by the patented "Lok." Adjoining sheets cannot spring apart, regardless of where pressure is applied.



When troweling back over Lok-Joint Lath, no plaster can enter the joint. The "Loks" bind adjoining units into a firm, unyielding plastering surface.

INSULITE INTERIOR FINISH

SECTION 3 . . . . . MASTER SPECIFICATIONS

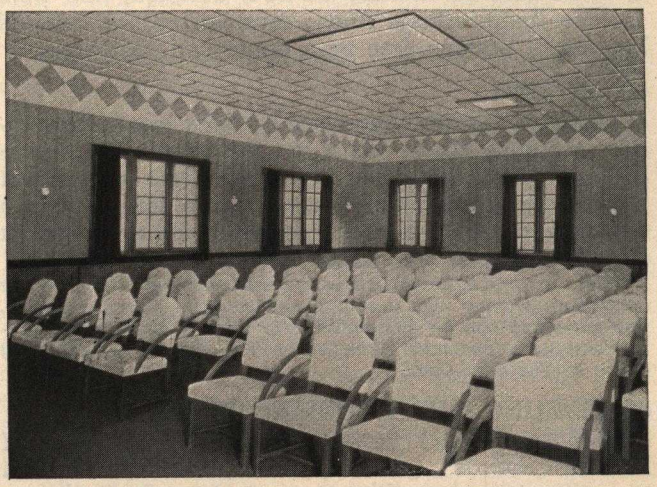
Note: *For Physical Characteristics, see page 3. For descriptions, thicknesses, dimensions, surface finishes, see pages 4 and 5.*

SHORT FORM SPECIFICATION

Note: *List and locate wall and ceiling areas to be finished. If more than one type, color, or thickness is used, list separately.*

Interior Finish shall be *(Ins-Lite) (Graylite) (Smoothcote) (Satincote) (specify color)* as made by INSULITE, Minneapolis, Minnesota. Units shall be *(TileBoard) (Plank) (Building Board) (Interior Board) (specify size)* as indicated on the drawings *(½ in.) (¾ in.) (1 in.)* thick *(specify).*

Application, framing, cutting, and finishing shall be in accordance with INSULITE's current published specifications.



DETAILED SPECIFICATIONS

BUILDING BOARD (INS-LITE AND GRAYLITE) INTERIOR BOARD (SMOOTHCOTE AND SATINCOTE)

(1) WORK INCLUDED

Note: *Here list and locate definitely the wall and ceiling areas to be covered. If more than one thickness is used or more than one type of surface exposed, list separately and the respective locations or areas covered.*

Note: *For the best results, interior detailed elevations of walls and plans of ceilings showing joint or panel design should be included in the drawings and referred to here.*

(2) FRAMING

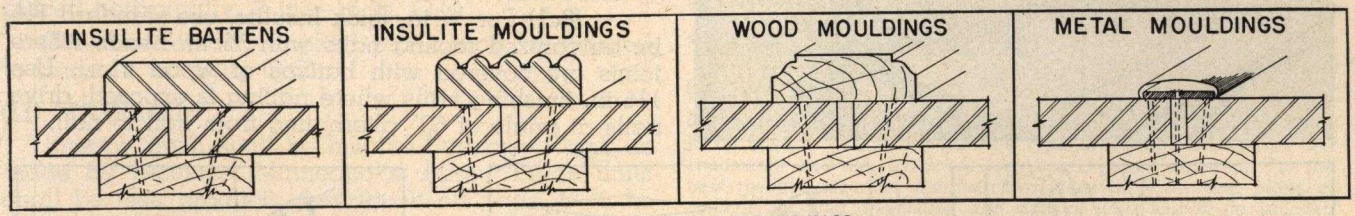
(2a) Studs and joists shall be framed to conform accurately to the design of board spacing or paneling, set 12 or 16 in. O. C. Use additional studs, joists, and headers where necessary. Provide headers back of all wainscot caps, chair rails, baseboards, and other heavy wood trim.

(2b) It is imperative for satisfactory results that framing to receive Insulite Building or Interior Board used as interior finish shall be selected for straightness and uniform thickness to form a true, even nailing base. Bent studs shall be straightened by notching and wedging from the concave side. Framing members that are bent sideways so that the Insulite joint will not center on the bearing shall be forced into position with cut-in headers.

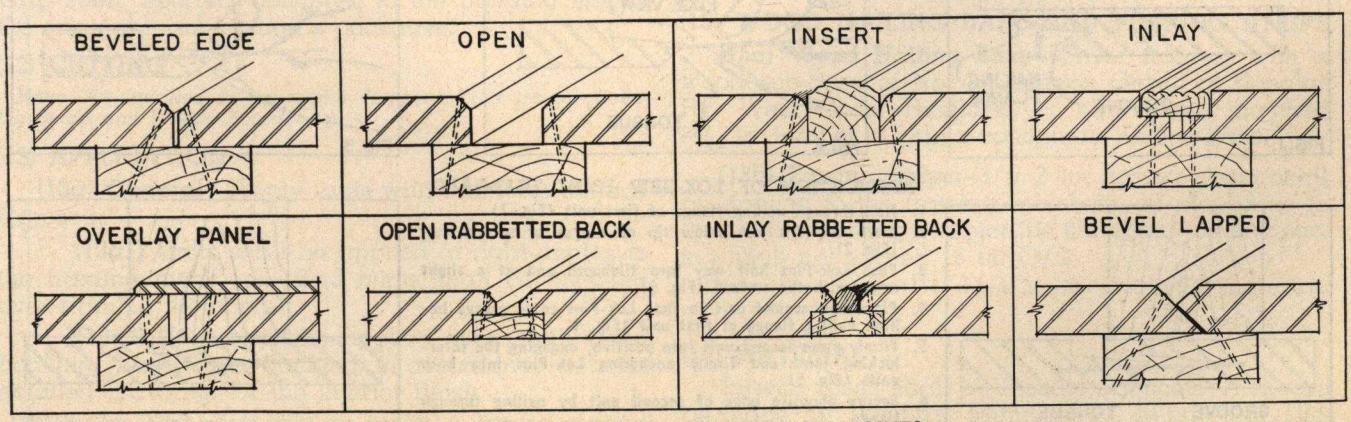
(2c) Fur masonry walls with (1 x 2 *in.*) (*specify*) furring strips set 12 or 16 in. O. C. accurately shimmed to a true, level plane. Secure substantially to masonry.

(3) MATERIAL

Interior finish shall be (*Ins-Lite*) (*Graylite*) (*Building Board*) (*Smoothcote*) (*Satincote*) (*Interior*



EXAMPLES OF JOINT MOULDINGS



EXAMPLES OF FEATURED OR ACCENTED JOINTS

Board)—as made by INSULITE, Minneapolis, Minn. Boards shall be (*See Products Description, page 4*) thick (*as designated in paragraph 1*), 4 ft. wide x 6, 7, 8, 9, 10 and 12 ft. long as best adapted, free from surface imperfections and edges where not covered by trim or battens, free from dents and abrasions.

(4) CUTTING

All cutting and fitting shall be done in a workmanlike manner. Where joints are not exposed, cut with a fine tooth saw, using a sharp blade with rapid strokes and a minimum of pressure. Where joints are exposed, cut with a sharp linoleum knife against a straight edge, or with a fiber board cutting tool.

Note: *Sawing if forced leaves a burr, often unsatisfactory for decorating. Cutting with a sharp linoleum knife leaves a smooth, true edge and can be accomplished in three strokes. Very accurate cuts can be made with either The Stanley Fiber Board Cutter or The Bevil Devil.*

(5) BEVELING AND ROUNDING EDGES

(5a) (*Beveling*) (*and*) (*rounding*) of edges of Insulite (*boards*) (*and*) (*battens*) shall be done in a uniform, workmanlike manner, straight and true to line before they are erected.

(5b) Beveling shall be done with a beveling tool or with sandpaper or emery cloth wrapped around a wood block.

(5c) Rounded edges shall be accomplished by means of a piece of sandpaper held in the hand.

(6) BATTENS

(6a) Insulite battens shall be (*specify thickness and width*) with edges neatly (*beveled*) (*rounded*) (*specify*).

(6b) Wood battens shall be (*specify thickness, width, design*).

(7) METAL JOINT MOULDINGS

Metal joint battens shall be as detailed made by (*specify name of manufacturer, type of metal and finish*).

(8) APPLICATION

(8a) General—Insulite shall be applied immediately prior to the erection of interior wood trim. The Insulite boards shall be placed singly around the room and allowed to stand at least 24 hours before erection to allow adjustment to atmospheric conditions. In exceptionally dry weather moisten the Insulite lightly on side facing supports and pile the boards 24 hours before erection.

Apply Insulite with the length parallel with framing members with *(Burlap) (Linen) (Smoothcote) (Satincote)* face exposed *(as designated in par. 1)*. All joints shall center over framing members.

(8b) Spacing—

(8b1) Battened Joints—Space boards ⅛ in. apart at edges.

(8b2) Exposed Joints—Bring boards to a moderate contact. Do not force into place.

(8c) Nails—

(8c1) For ½ in. thick Insulite, use standard 1½ in. galvanized roofing nails with ⅜ in. heads where joints are covered with battens or wood trim. Use 1½ in. finishing nails where nailing is exposed; drive nails at angle of 60° alternating from nail to nail.

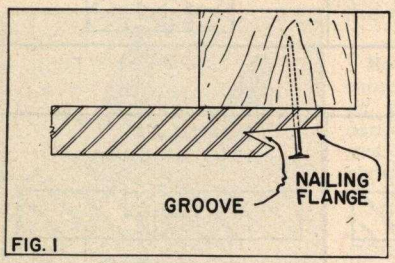


FIG. 1

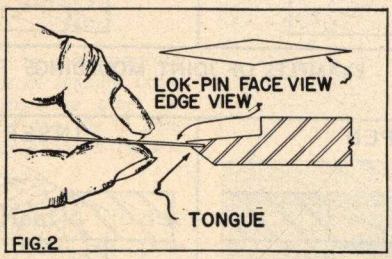


FIG. 2

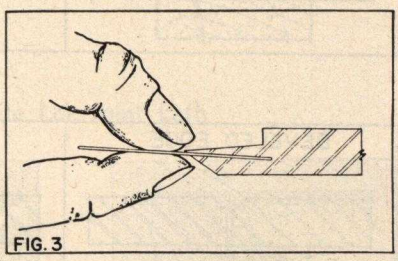


FIG. 3

APPLICATION OF LOK-GRIP JOINT TILEBOARD

1. Nail through nailing flange of first unit (Fig. 1).
2. Start Lok-Pins just below tip of tongue of second unit (Fig. 2).
3. Push Lok-Pins half way into tileboard and at a slight angle with the surface (Fig. 3).
4. Place this second unit so that Lok-Pins enter groove behind nailing flange of first unit (Fig. 4).
5. Firmly press second unit into position, engaging the interlocking joint and firmly anchoring Lok-Pins into both units (Fig. 5).
6. Secure opposite edge of second unit by nailing through flange.
7. Continue in same manner with succeeding units.

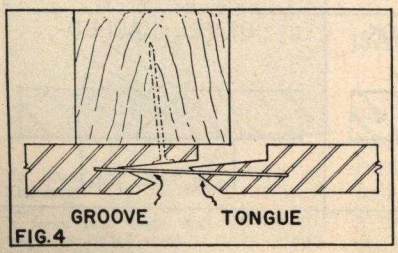


FIG. 4

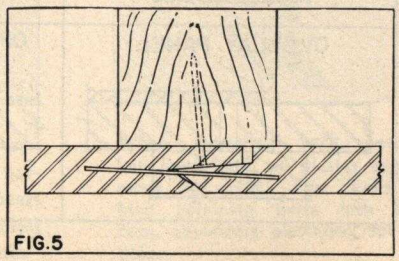


FIG. 5

(8c2) For *(¾ in.) (and) (1 in.)* thick Insulite, use 8d common nails where joints are covered with battens or wood trim. Use 2 in. finishing nails where nailing is exposed.

Note: *The use of cadmium coated or galvanized nails is desirable, especially for exposed nailing, to guard against staining due to rust.*

(8d) Nailing—First nail Insulite to intermediate framing members and then nail the edges. At all edges space nails 3 in. apart O.C. and approximately ⅜ in. away from the edge. On intermediate framing members, space large headed nails 6 in. apart O.C. and finishing nails 3 in. apart O.C.

Where nailing is exposed, drive finishing nails at an angle and set the heads neatly below the Insulite surface. Where nails are covered by battens or wood trim, drive nails until the heads are slightly below the Insulite surface.

(8e) Battens and Wood Trim—Apply battens and wood trim *(as detailed)* over Insulite with nails of sufficient length to pass through the Insulite and penetrate the framing members at least 1 in.

(8f) Metal Moulding—Apply metal mouldings as detailed. *(Specify any particular method of attachment.)*

PLANK (SATINCOTE)

(9) WORK INCLUDED

Note: *Here list and locate definitely the wall and ceiling areas to be covered. If more than one type of surface is exposed, list and locate separately.*

(10) FRAMING

Note: *Where plank units are applied directly to framing members, framing shall be as specified in paragraph 2 page 11.*

(10a) If plank units are to be placed vertically, 1 x 2 in. furring strips shall be applied over the studs placed horizontally, 8 in.—16 in. O.C.

(10b) Horizontally applied plank may be applied to studs 12 or 16 in. O.C.

(11) MATERIAL

Interior finish shall be Insulite Satincote Plank as made by INSULITE, Minneapolis, Minn. Plank units shall be *(see products description on page 4)* ½ in. thick and *(here specify width and length)* with Lok-Grip Joint, beaded, delivered to the building site in the original manufacturer's packages.

(12) CUTTING

Note: *As specified in paragraph 4, page 12 for Insulite Building Board and Interior Board.*

(13) APPLICATION

(13a) General—Apply units with Satincote surface exposed.

(13a1) Units shall be applied at right angles to the framing members. End joints shall be centered over framing members.

(13a2) Units shall be applied over *(solid wood backing) (firm plaster backing)* in accordance with the detailed drawings for the interior finish.

NOTE: *Use (13a1) where units are applied to framing members; (13a2) where units are applied to a solid backing.*

(13b) Spacing—Bring plank units to a moderate contact at interlocking edges. Do not force into place.

Note: *On horizontal plank applications, the end joints may be made to form part of the wall pattern by beveling the ends, or by using metal mouldings, etc.*

(13c) Adhesive—Adhesive shall be Insulite Adhesive No. 480.

(13d) Nails—Use 3d box nails, 1¼ in. long, for ½ in. thickness plank for the concealed nailing along the flange. For bead and for face nailing of starting planks, use finishing nails or brads of sufficient length to give 1 in. penetration into the nailing member.

Note: *The use of cadmium coated or galvanized nails is desirable to guard against staining due to rust.*

(13e) Cementing over Solid Backing—Apply adhesive in spots not more than 10 in. center to center along each edge nor closer than 1½ in. from the edge of each unit. Final size of adhesive spot when pressed into position is to be 2 to 3 in. in diameter and ⅛ in. in thickness.

(13f) Nailing—Nail at all nailing members through nailing flange of Lok-Grip Joint, driving nail at a slight angle so head will be flush with flange slope. Nails are to be approximately ¼ in. from outside edge of flange. Nail 10 in. and wider planks with finishing nails in the bead along edge opposite nailing flange at each nailing member.

(13g) Lok-Pins—Space Lok-Pins not more than 16 in. apart, placing them in Lok-Grip joint midway between nailing members when bead nailing is used and near nailing members when not used.

(13h) Overlays, Trim, etc.—Apply *(decorative overlays) (metal mouldings) (wood trim)* over Insulite Plank with *(nails) (screws)* of sufficient length to pass through the Insulite and penetrate the backing at least 1 in.

TILEBOARD (SATINCOTE)

(14) WORK INCLUDED

NOTE: *Here list and locate definitely the wall and ceiling areas to be covered. If more than one type of surface is exposed, list separately and the respective locations or areas covered. For the best results, accurate, detailed elevations of walls and plans of ceilings showing disposition and sizes of units should be included in the drawings and referred to here.*

(15) WOOD NAILING BASE AND FURRING STRIPS

(15a) Wood Nailing Base—Cover framing with a wood sub-base of No. 1 Common Grade of Douglas Fir, West Coast Hemlock, or equivalent, matched $^{25}/_{32}$ in. lumber to form a continuous nailing base.

(15b) Furring Strips—1 x 2 in. furring strips shall be applied to the framing members, so placed as to form a firm nailing base for the tile board units. Spacing shall not exceed 16 in. O.C.

Note: *Use (15a) or (15b) where Insulite TileBoard is not applied over plastered surfaces.*

(16) MATERIAL

Interior finish shall be Insulite Satincote TileBoard as made by INSULITE, Minneapolis, Minn. The TileBoard shall be *(Lok-Grip) (butt)* joint.

MANDO FOREST PRODUCTS PAPER COMPANY MINNESOTA AND ONTARIO

(17) CUTTING

Note: *As specified in paragraph 4, page 12 for Insulite Building Board and Interior Board.*

(18) APPLICATION

(18a) General—Insulite TileBoard shall be laid in exact accordance with the detail drawings with Satincote texture exposed.

(18b) Spacing—Bring units to a moderate contact. Do not force into place.

Note: *Provide space for expansion along all edges of each panel (field) such as bordered by beams, covering this space with a molding or overlay. Provide intermediate transverse expansion joints not more than fifty feet apart in each direction for large continuous areas of tileboard.*

(18c) Adhesive—Adhesive shall be Insulite Adhesive No. 480.

(18d) Nails—

(18d1) Use 3d box nails, 1¼ in. long for ½ in. thickness TileBoard for the concealed application along the nailing flange. Use finishing nails of sufficient length to give 1 in. penetration into nailing member for face nailing of starting units.

(18d2) Use 4d finishing nails for ½ in. thickness TileBoard.

Note: *Use (18d1) for Lok-Grip Joint and (18d2) for butt joint TileBoards. The use of cadmium coated or galvanized nails is desirable to guard against staining due to rust.*

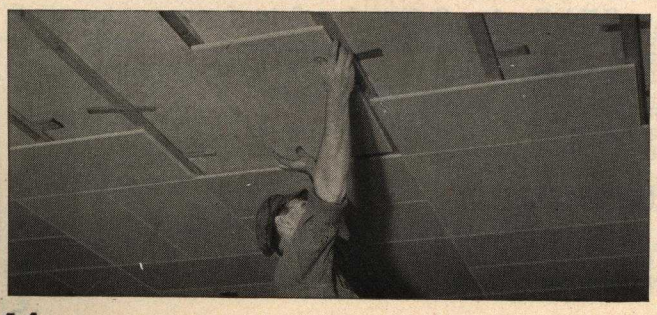
(18e) Cementing Over Solid Background—Apply adhesive spots not more than 10 in. apart or closer than 1½ in. from edges of TileBoard. Final size of spot, when pressed into place is to be 2 to 3 in. in diameter and ⅛ in. in thickness. Apply unit in final position and slide back and forth about ½ in. a few times, finishing in final position with exposed surface level and true. Do not force units into place.

Note: *Butt joint TileBoard generally used for above method.*

(18f) Nailing Over Wood Backing (Continuous or Furring Strips)—Start application at one corner of area to be covered, with nailing flanges of TileBoard unit toward center of area. Place box nails through nailing flange at each of three corners and not over 8 in. apart along edge over nailing member. Face nail units along borders of areas.

(18g) Lok-Pins—Place Lok-Pins in Lok-Grip Joint of each unit near two corners, and additional pins not more than 16 in. apart along long edge of unit or along edge bearing on nailing member.

Note: *Use (18f) and (18g) for application of Lok-Grip Joint TileBoard.*



(18h) Overlays — Apply decorative overlays by spot cementing and nailing or by nailing only. Use nails of sufficient length driven at an angle with heads set to assure adequate penetration of nailing base.

ACOUSTILITE AND FIBERLITE

(19) WORK INCLUDED

Note: *Here list and locate definitely the wall and ceiling areas to be covered. If more than one type of surface is used, list separately with the respective locations or areas covered. Accurate, detailed elevations of walls and plans of ceilings showing disposition and sizes of units should be included in the drawings and referred to here.*

(20) WOOD NAILING BASE AND FURRING STRIPS

(20a) Wood Nailing Base

Note: *As specified in paragraph 15a, page 13, for TileBoard.*

(20b) Furring Strips—1 x 2 in. *(1 x 3 in. for adhesive and nail application)* furring strips shall be applied to the framing members, so placed to form a firm nailing base for the units. Spacing shall not exceed 16 in. O.C.

Note: *Use (20a) or (20b) where Acoustilite or Fiberlite is not applied over plastered surfaces.*

(21) MATERIALS

Acoustical treatment shall be *(Acoustilite) (Fiberlite)* as sold by INSULITE, Minneapolis, Minn. Acoustical board shall be *(specify size and color).*

(22) CUTTING

All cutting and fitting shall be done in a neat workmanlike manner. Cut with a fine tooth saw using a minimum of pressure, a power saw or a sharp knife. A sandpaper block or wood file can be used to bevel cut edges.

(23) APPLICATION

(23a) General—(*Acoustilite*) (*Fiberlite*) shall be laid in exact accordance with the detail drawings.

(23b) Spacing—Bring units to a moderate contact. Do not force into place.

(23c) Adhesive—Adhesive shall be Insulite Adhesive No. 480.

(23d) Nails—Use *(4d finishing nails for Fiberlite) (5d finishing nails for Acoustilite).*

Note: *The use of cadmium coated or galvanized nails is desirable to guard against staining due to rust.*

(23e) Cementing Over Solid Background

Note: *As specified in paragraph 18e on this page. Care should be exercised in pressing and sliding the units into place so as not to indent the surface.*

(23f) Nailing Over Continuous Wood Backing or Plaster—Nail units in position with nails at each corner and along each edge. For 16 x 16 in. and larger sizes, place two nails near center of each unit. Drive nails at 60° angle with heads set just below the board's surface.

(23g) Nailing Over Furring Strips—Nail at each corner of each unit and not more than 4 in. apart along each nailing member.

Note: *Additional security may be obtained by applying adhesive spots 6 in. apart in line with each nailing member and not closer than ½ in. from edge. Spots are to be approximately ⅛ in. thick and 1 in. in diameter when in final position.*

FINISHING INSULITE
SIZING, PAINTING, STENCILING
SECTION 4 . . . . . MASTER SPECIFICATIONS

Note: *Insulite is frequently used as interior finish in its natural state. It may be finished with paints, plastic paints, wall coverings, etc. Insulite is designed to provide high insulating efficiency with decided structural strength—painting and finishing methods entirely satisfactory for plaster or wood surfaces are not necessarily most suitable for Insulite.*

(1) SIZING

Note: *Ins-Lite and Graylite, except for the application of stains and water paints and certain types of plastic paint, require a sizing coat. A size or primer that completely seals the surface pores will make it possible for the paint not only to cover uniformly and smoothly, but to go farther as well. To prevent "bleeding" of oil vehicle paints applied over Graylite or Bildrite, first size the board and use one coat of aluminum paint as a primer or use a size that in itself will prevent the asphalt from coming in contact with the subsequent paint coats.*

Where speed and economy are important, satisfactory results on Smoothcote and Satincote can be obtained with one coat of paint without use of a sealer. Where the highest quality finishes are desired, a first coat of sealer followed by succeeding coats of paint will be found most suitable.

(2) OIL OR VARNISH PAINTS

Note: *The Linen, Smoothcote or Satincote surface finish of Insulite is recommended for these finishes. The use of reputable, high grade interior paints is advocated to assure the best results. These may be obtained to produce varying degrees of luster, such as gloss, semi-gloss or eggshell and flat. In two coat work, the second coat may be brush stippled, sponge stippled in one or more contrasting tones, or glazed, all accomplished in the standard manner.*

Brushing lacquers, bronzing liquids, and other similar finishing materials may be applied to sized Insulite.

(2a) Sizing—Thoroughly size the surface, following instructions of the manufacturer as given on the container.

(2b) Painting—Over the sizing apply two coats of *(specify brand and manufacturer)* paint.

Note: *Describe further any particular surface finish.*

(3) WATER EMULSION PAINTS

Note: *If glazed, the Burlap textured surface is advocated, otherwise the Linen surface is recommended. These paints should be applied directly to the unsized Insulite surface. A single coat will give coverage, though two coats are recommended.*

(3a) Painting—Apply *(one) (two)* coats of *(specify brand and manufacturer)* paint. Paint shall be prepared, mixed, and applied in strict accordance with the manufacturer's directions.

(3b) Glazing—

Note: *These paints may also be glazed as are the varnish paints under the following directions:*

Add one (1) quart of spar varnish to the gallon of paste before mixing with water. Apply to the Insulite surface and glaze.

Note: *Describe further the particular glaze and effect desired.*

(4) WATER PAINTS

Note: *Either Burlap or Linen surface may be used dependent on effect. Paints of this class consist of water as a vehicle plus a glue or casein binder and pigment. Ordinary calcimines are of this type. They may be applied directly to unsized Insulite.*

Painting—Apply one (1) coat of *(calcimine) (casein) (specify brand and manufacturer of water paint.) (Calcimine) (paint)* shall be prepared, mixed, and applied in strict accordance with the manufacturer's directions.

(5) STENCILED AND BURNED DESIGNS

Note: *Decorative designs may be used to advantage on the surface of Insulite. These may be produced either by stenciling or burning the design.*

Decorative stencils of design and color selected by the architect shall be applied as follows: *(Here list and describe stencils required.)*

Stencil colors shall be made of pure Japan color paste thinned to the proper consistency with six (6) parts of turpentine, three (3) parts of linseed oil, to one (1) part of Japan Drier.

Burned designs shall be as follows: *(Here list the designs and location of surfaces to be treated.)* The burning shall be done with a tool made for this purpose.

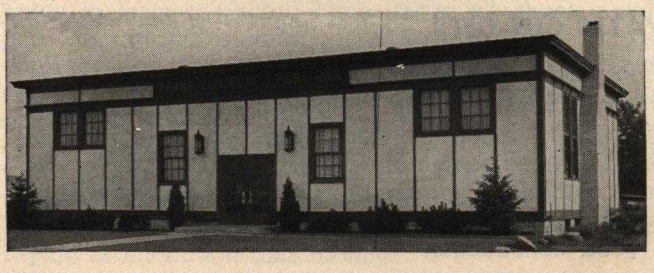
(6) EXTERIOR PAINTING

Note: *Where either Bildrite or Graylite are used as an exterior finish they may be painted with an exterior grade water thinned resin paste paint.*

Painting—Apply *(one) (two)* coats of *(specify)* in accordance with manufacturer's directions.

Note: *Rust resistant nails should be used.*

INS-LITE AND GRAYLITE FOR EXTERIOR USE
SECTION 5 . . . . . .MASTER SPECIFICATIONS



Note: *Ins-Lite and Graylite Building Board may be used to advantage in many classes of work as the exterior finish over frame construction.*

(1) WORK INCLUDED

Note: *Here list and locate the wall surfaces to be covered. If more than one thickness is used or more than one type of surface exposed, list separately.*

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(2) FRAMING

Studs shall be framed to conform accurately to the design of board spacing or paneling, set 16 in. O. C. Use additional studs and headers where necessary. Provide headers back of all horizontal wood trim. Where necessary, straighten and stay studs back of joints to provide central bearing under them.

(3) MATERIAL

Exterior finish shall be *(Ins-Lite) (Graylite)* Building Boards as made by INSULITE, Minneapolis, Minn. Boards shall be free from surface imperfections (½ in.) *(¾ in.) (1 in.)* thick *(as designated in paragraph 1)*, 4 ft. wide x 6, 7, 8, 9, 10 and 12 ft. long as best adapted.

(4) APPLICATION

(4a) General—Moisten and pile Insulite boards one day before application. Remove boards from the pile just prior to nailing to the framing. Moistening shall be accomplished by sprinkling lightly with sprinkling can or from a broom dipped into a pail of water.

Apply boards with the length parallel with framing members *(Burlap) (Linen)* face exposed. All joints shall center over framing members.

(4b) Spacing—Space boards ⅛ in. apart at all edges. At window and door frames bring boards in close contact with frame members.

(4c) Nails—

(4c1) Use ⅜ in. head, 1½ in. galvanized roofing nails for ½ in. thick boards.

(4c2) Use 8d galvanized or coated nails for *(¾ in.) (1 in.)* thick boards.

(4d) Nailing—First nail Insulite to intermediate framing members and then nail the edges. At all edges space nails 3 in. O. C. and ⅜ in. away from the edge. On intermediate framing members, space nails 6 in. O. C. Drive nails until the heads are flush with the surface.

(4e) Painting—

Note: *Painting should be done before battens or wood trim is applied over the joints. Wherever exposed directly to the weather, the Insulite surface should be sized and painted in accordance with Insulite specifications.*

(4f) Battens and Wood Trim—Apply battens and wood trim *(as detailed)* over Insulite boards with nails of sufficient length to pass through the boards and penetrate the framing members at least 1 inch.

ROOF INSULATION SPECIFICATIONS

A GUIDE TO GOOD PRACTICE—SHORT FORM

SECTION 6 . . . . . MASTER SPECIFICATIONS

GENERAL

Too often the roofing contractor's work has to be executed against time and frequently under unfavorable weather conditions. There are, however, certain provisions following which, if clearly set forth in the specifications, enable him to do better and more rapid work and at the same time assure a longer lifed roof to the owner.

Vapor barriers, seal courses and water cut-offs are approved for standard practice by the United Roofing Contractors' Association.

VAPOR BARRIER

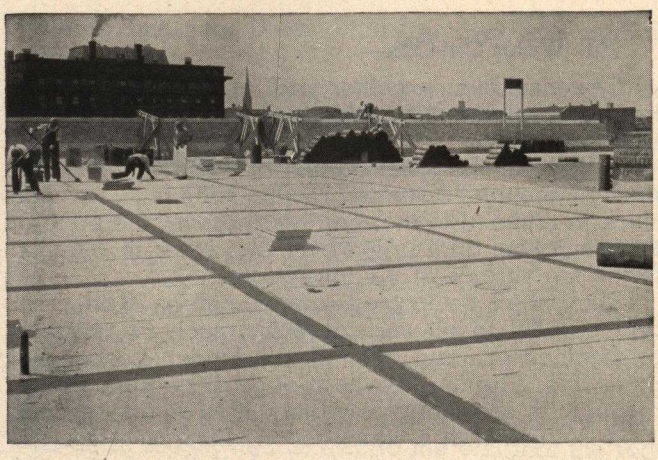
The vapor barrier consists essentially of a special membrane, with very low vapor permeability, such as a multiple layer of roofing felts or of a particular kind of duplex paper or saturated and coated felt. Applied directly over the roof deck and mopped over with hot bitumen to receive the insulation.

SEAL COURSE FOR CONCRETE AND SIMILAR DECKS

Buildings with concrete and similar decks present two major problems to the roofer. He is often forced to lay the roofing, including the insulation, before other trades have left the roof. Again, he may be called upon to work during inclement weather. To provide against such contingencies, it is recommended that the specifications provide for the application of a standard seal course which acts as a temporary waterproof covering.

WATER CUT-OFFS

Provision against damage by sudden showers, overnight and week-end stopping of the insulation and roofing and assurance against spread of leaks from the sometimes seemingly inevitable defects or abuse can be made with properly installed water cut-offs through the body of the insulation. They are standard in good construction.



WOOD NAILING STRIPS

Insulation is not a nailing base. Therefore, it is necessary that wood nailing strips be provided on all roof decks to form a permanent, rigid nailing base for the secure attachment of all sheet metal flashing. These strips should be the full thickness of the insulation and should be at least 1 in. wider than the apron of the flashing.

RECOMMENDED NUMBER OF LAYERS

Where square edged units of Insulite Roof Insulation are used, for the best results the insulation should be laid in two (2) layers, the second breaking joints with the first layer.

BITUMENS AND FELTS

Where coal tar pitch is used, all felts should be impregnated with the same material. Where asphalt is used use asphalt impregnated felts.

SHORT FORM SPECIFICATION

Note: *List areas to be insulated.*

Insulation shall be Insulite *(Ins-Lite) (Graylite)* Roof Insulation, 23 in. x 47 in., *(specify thickness and edge treatment)* as manufactured by INSULITE, Minneapolis, Minnesota.

Apply in *(1) (2)* layer *(s)*. Preparation of roof deck, nailing strips, seal course, water cutoffs, and application of roof insulation shall be in accordance with INSULITE'S current published specifications.

INSULITE ROOF INSULATION
OVER WOOD ROOF DECKS UNDER BUILT-UP ROOFING
SECTION 6A . . . . . MASTER SPECIFICATIONS

(1) WORK INCLUDED

Note: *List and locate the roof areas to be insulated. If more than one thickness of insulation is required on various roof areas, list and locate each separately.*

(2) INSULATION MATERIAL

Insulation shall be *(homogeneous) (laminated) (stitched) (specify)* thick *(offset) (square)* edge *(Ins-Lite) (Graylite)* Roof Insulation as made by INSULITE, Minneapolis, Minn., laid in *(one) (two)* layer*(s)*. Boards shall be 23 x 47 in. All insulation shall be kept dry before, during and after application.

(3) WOOD NAILING STRIPS

Note: *To provide adequate attachment for miscellaneous sheet metal flashings, such as leader outlets, soil and vent flashings, metal base flashings, eave aprons, and gravel stops.*

The General Contractor will provide wood nailing strips to form a nailing base under all sheet metal flashing aprons and flanges of every nature. Strips shall be the full thickess of the insulation and at least 1 in. wider than the apron, rigidly secured to the roof construction with nails, lag bolts, expansion bolts, or other means of attachment as best adapted to the particular construction. This contractor shall check all nailing strips and notify the architect in writing of any defects for correction before proceeding with the laying of insulation and roofing.

(4) ROOF DECK

The surface of the roof deck shall be broomed clean, free from dirt, loose material, and thoroughly dry. All loose or springy boards shall be properly nailed before insulation is laid.

(5) BUILDING PAPER

Note: *Use this clause only in case the insulation is laid in one (1) layer.*

The entire roof area shall be covered with two (2) plies (lapped half) rosin sized building paper or 6 lb. coated felt. Nail sufficiently to hold in place until the insulation is laid over it.

Note: *Include (5) for insulation against heat loss only. Omit where high humidities are maintained.*

(6) VAPOR BARRIER

Over the wood roof deck lay two (2) plies (lapped half) of light weight (34 lbs. per square) bitumen prepared roofing having one side coated. Lay coated side down. Nail the back edge of each sheet with tin-capped, galvanized, barbed roofing nails spaced 12 in. O.C. All laps shall be mopped back 12 in. with hot bitumen. Do not mop over this membrane until just prior to the laying of insulation.

Note: *Include (6) only where high humidities are maintained.*

(7) APPLICATION OF INSULATION

(7a) General—Only as much Insulite Roof Insulation shall be laid over the roof area as can be covered by the finished roofing in any one day.

Lay the Insulite in (*one*) (*two*) layer(*s*) over the entire roof area. Adjoining edges of the boards shall be brought to a moderate contact but shall not be forced into place. Boards shall be laid in parallel courses with end joints in each course breaking with those of adjoining courses.

(7b) Mopping with Vapor Barrier—Mop the exposed vapor barrier felt liberally with hot (*coal tar pitch*) (*asphalt*). Only sufficient area to provide complete embedment of each Insulite board shall be mopped at a time.

Note: *Include (7b) only where high humidities are maintained.*

(7c) Two Layer Insulation—

(7c1) Where insulation is laid in two (2) layers the boards of the second layer shall be laid parallel with those of the first layer, and the joints of the second layer shall break joints with the first layer.

Nailing of two (2) layer insulation shall be through the second or top layer only. (*Do not nail the first layer.*)

Note: *Include (7c1) for insulation against heat loss only. Omit where high humidities are maintained.*

(7c2) Where insulation is laid in two (2) layers the boards of the second layer shall be laid parallel with those of the first layer, and the joints of the second layer shall break joints with those of the first layer.

Mop the exposed surface of the first layer liberally (*at least 25 lbs. per square*) with hot (*coal tar pitch*) (*asphalt*). Only sufficient area to provide complete embedment of each board shall be mopped at a time.

Note: *Include (7c2) only where high humidities are maintained.*

(7d) Water Cut-Offs—

The insulation, whether laid in one (1) or two (2) layers, shall be cut to the line designated for the water cut-off.

Water cut-offs shall consist of strips of (*coal tar pitch*) (*asphalt*) saturated roofing felt 8 to 10 in. wide stuck in bitumen to the roof, carried over the edge of the insulation, and turned over and stuck in bitumen to the top surface of the insulation.

They shall be located approximately 23 in. from and parallel to all vertical walls, such as parapets or penthouses, and around all leader heads, soil pipes, etc. The field of the roof shall be divided into rectangular areas approximately 30 ft. on a side, each area isolated with a water cut-off. Insert a water cut-off surrounding each day's work if the stop is not made at the designated water cut-off.

At least one (1) ply of the finished roofing shall be mopped to the water cut-off each night.

(7e) Nails—Nails shall be of sufficient length to pass through the insulation and penetrate the wood roof deck at least 1 in.

Note: *Include (7e) for insulation against heat loss only. Omit where high humidities are maintained.*

(7f) Nailing—Space nails 12 in. O.C. Each board shall be secured in place by nailing along each edge and staggered along the longitudinal center line.

Note: *Include (7f) for insulation against heat loss only. Omit where high humidities are maintained.*

(8) APPLICATION OF ROOFING

The exposed surface of the Insulite Roof Insulation shall receive a poured coat of hot (*coal tar pitch*) (*asphalt*) squeegeed or broomed to about $\frac{1}{16}$ in. thickness. Into this poured coat, while hot, the roofing felts shall be embedded.

Note: *The above in lieu of the ordinary mopping is advocated. Roofing shall be applied in accordance with the manufacturer's specifications as selected by the architect.*

INSULITE ROOF INSULATION
OVER ROOF DECKS OF MONOLITHIC CONCRETE, GYPSUM AND UNIT TILE UNDER BUILT-UP ROOFING OR PROMENADE TILE
SECTION 6B . . . . . MASTER SPECIFICATIONS

(1) WORK INCLUDED

Note: *Same as Master Specification 6A, page 17.*

(2) INSULATION MATERIAL

Note: *Same as Master Specification 6A, page 17.*

(3) ROOF DECK

(3a) General—The surface of the deck shall be reasonably smooth without depressions, broomed clean, free from dirt and loose material and thoroughly dry.

(3b) Unit Tile Construction—The joints of all tiles shall be properly pointed up.

Note: *Include (3b) where deck is of cement, gypsum, book, or similar tile construction.*

(3c) Under Promenade Tile Roofing—

Note: *Slope for proper drainage may be provided in either of the two following methods: the first is preferable.*

(3c1) The roof slab shall be formed flat and the drainage slopes built up over the Insulite Roof Insulation with the finished promenade tile roofing and its mortar bed.

(3c2) The roof slab shall be formed graded to all outlets with cement mortar fill before the seal course and the Insulite Roof Insulation is laid.

(4) SEAL COURSE

Note: *Recommended on all insulated roof decks, other than wood, to afford protection from rain, snow and ice that the insulation and finished roofing may be applied under favorable weather conditions after all other trades have left the roof.*

(4a) Priming the Deck—Prime the deck with asphalt roofing primer.

Note: *Include priming if asphalt mopping and asphalt felt are used for seal course. If coal tar pitch and felt are used, no primer is necessary.*

(4b) Mopping the Deck—*(Mop the entire roof area) (Spot or strip mop the individual tiles or units)* with a coat of hot *(coal tar pitch) (asphalt)*.

Note: *If deck is monolithic (concrete, poured gypsum), mopping shall be continuous. If deck is of precast units (book tile, precast gypsum, concrete), spot or strip mop the individual units.*

(4c) Laying the Seal Course—Over the mopping while hot, lay one *(1)* layer of 14 lb. *(coal tar pitch) (asphalt)* saturated roofing felt with 2 in. laps. Turn the felt up 4 in. against all walls and vertical surfaces and stick with bitumen and provide temporary thimbles at all leader heads, etc., to the end that the roof will be reasonably watertight against rain and melting snow. Do not mop over this membrane until just prior to the laying of insulation.

(5) APPLICATION OF INSULATION

(5a) General—

Note: *Same as (7a) General, Master Specification 6A, page 18.*

(5b) Mopping the Seal Course—Mop the exposed seal course liberally with hot *(coal tar pitch) (asphalt)*. Only sufficient area to provide complete embedment of each board shall be mopped at a time.

(5c) Two Layer Insulation—

Note: *Same as (7c2) Master Specification 6A, page 18.*

(4d) Water Cut-offs—

Note: *Same as (7d) Water Cut-Offs, Master Specification 6A, page 18.*

(6) APPLICATION OF ROOFING

Note: *Same as (8) Master Specification 6A, page 18.*

INSULITE ROOF INSULATION
OVER STEEL ROOF DECKS UNDER BUILT-UP ROOFING
SECTION 6C . . . . . MASTER SPECIFICATIONS

(1) WORK INCLUDED

Note: *Same as Master Specification 6A, page 17.*

(2) INSULATION MATERIAL

Note: *Same as Master Specification 6A, page 17.*

(3) SEAL COURSE

Note: *Include this seal course if the rooms beneath the roof carry high manufactured or incidental humidities. Do not use coal tar pitch mopping on steel decks.*

(3a) Mopping the Deck—Mop the entire roof area with a coat of hot asphalt.

(3b) Laying the Seal Course—

Note: *Same as (4c) Master Specification 6B, page 19, except asphalt saturated roofing felt is to be used.*

(4) APPLICATION OF INSULATION

(4a) Mopping the *(Seal Course) (Steel Deck)*— Mop the exposed *(seal course felt) (steel deck)* with hot asphalt. Only sufficient area to provide complete embedment of each board shall be mopped at a time.

(4b) General—

Note: *Same as (7a) General, Master Specification 6A, page 18.*

(4c) Two Layer Insulation—

Note: *Same as (7c2), Master Specification 6A, page 18.*

(4d) For steep Decks—In addition to the mopping, each Insulite board shall be secured to the steel deck with three (3) bolts along the top.

(4e) Water Cut-Offs—

Note: *Same as (7d) Water Cut-Offs, Master Specification 6A, page 18.*

(5) APPLICATION OF ROOFING

Note: *Same as (8) Master Specification 6A, page 18.*

INSULITE DIVISION

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